

*in situ*, and of the adjoining socket, is given in Pl. XXIX., fig. 2. The difference of form which the jaw of the Megalonyx presents, as compared with that of the Mylodon, especially in the greater recedence of the two horizontal rami from each other, will be appreciated by comparing Pl. XVIII. with Pl. XXIX.

DESCRIPTION OF A FRAGMENT OF THE SKULL AND OF THE TEETH OF THE  
MEGATHERIUM CUVIERI.

NOTWITHSTANDING the full, accurate, and elaborate accounts of the skeleton of the Megatherium given by Brû,\* Cuvier,† Pander and D'Alton,‡ and Mr. Clift,§ the fragments of this most gigantic of quadrupeds brought home by Mr. Darwin, possess much interest, and have added, what could hardly have been anticipated, important information as to the dental system, whereby an error in the generic character of the Megatherium has been corrected.

The fragments here alluded to are portions of the skull of three full-grown Megatheres: the most perfect part of which affords a view of the posterior, and of part of the basal surface, which regions of the cranium have not hitherto been elsewhere figured or described, (Pl. XXX.)

The plane of the occipital foramen forms with that of the base of the skull an angle of  $140^\circ$ , the plane of the posterior surface of the skull forms with the basal plane an angle of  $68^\circ$ . The occipital condyles are therefore terminal, or form the most posterior parts of the cranium. The extent of their convex curvature in the antero-posterior direction, which equals that of a semicircle, indicates that the Megatherium possessed considerable freedom and extent of motion of the head. The condyles are not extended in the lateral direction so far as in the Toxodon; their axis is more oblique than in the Glossotherium, and their internal surface is more parallel with the axis of the skull, the foramen magnum not presenting that infundibuliform expansion which is so characteristic of the Glossotherium. The occipital condyles resemble most in form and position those of the Scelidotherium; but in the angle of the occipital plane the Megatherium is intermediate between the Scelidotherium and Glossotherium. The ex-occipitals terminate laterally and inferiorly, each in a short, but strong obtuse process. The posterior plane of the skull is traversed by a strong arched intermuscular crest, which

\* Descripcion del Esqueleto de un quadrupedo muy corpulento y raro, que se conserva en el Real Gabinete de Historia Natural de Madrid. Folio, Madrid, 1796.

† Ossemens Fossiles, tom. v. pt. i. p. 179.

‡ Das Riesen Faultier, Bradypus giganteus, von Dr. Chr. Pander und Dr. E. D'Alton." Folio, Bonn, 1821.

§ Transactions of the Geological Society, 1835, p. 438.

forms the upper boundary of a pretty deep fossa, which is divided by a median vertical ridge, extending downwards to within an inch of the upper margin of the foramen magnum. A second strong obtuse transversely arched ridge curves over the first, and forms the upper boundary of the posterior or occipital region of the skull: the interspace between the two transverse ridges is very irregular, and indicates the firm implantation of powerful nuchal muscles or ligaments, (Pl. XXX. fig. 1.)

In the configuration and angle of the occipital plane the Megatherium indicates the same general correspondence with the Edentate type, which has been pointed out in the descriptions of the crania of the Glossotherium and Scelidotherium: and the resemblance to the Scelidotherium is not less striking in the small proportional size of the cranium in this quadruped, which surpasses the rest of its class in so great a degree in the colossal proportions of its hinder parts.

Having detected in the base of the skull of the Scelidotherium an articular semicircular pit for the head of the styloglossal bone, similar to, but relatively smaller than, that remarkable one in the skull of the Glossotherium, it became a matter of interest to determine whether this structure, which does not exist in any of the existing Edentals, should likewise be present in the gigantic type of the Megatherioid family. The result of a careful removal of the matrix from the basal region of one of the cranial fragments of the Megatherium was the detection of this articular cavity, in each temporal bone in the same relative position as in the Glossotherium and Scelidotherium. The styloid articular cavity is relatively smaller, and shallower, than in the Glossotherium, its proportions being much the same as those of the Scelidotherium. The cranial or posterior extremity of the stylo-hyoid bone in the Scelidotherium is bent upwards at an obtuse angle (Pl. XXI.), and terminates in an articular ball which rotates in this cavity. The size of this bone, and its mode of articulation, indicates great power and muscularity of tongue in the Megatherioids, and calls to mind the importance of that organ in the Giraffe, which subsists on the same kind of food as that which I have supposed to have supported the Megatherioids, although the general organization of these animals and the mode in which the foliage was brought within reach of the tongue are as opposite as can well be imagined.

The anterior condyloid foramen presents scarcely one half the absolute size of that of the Glossotherium, whence we may infer a correspondingly inferior development of the tongue in the Megatherium. The fractured parietes of the cranial cavity of the Megatherium every where exhibit evidences of the great extent of the air-cells or sinuses continued from the nasal cavity: on the basilar aspect of the cranium they extend as far back as the jugular foramina: the whole of the basi-sphenoid being thus excavated, and permeable